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THE LORDS OF THE NIGHT AND THE TONALAMATL OF THE CODEX BORBONICUS

By CHARLES P. BOWDITCH

The position which the Tonalamatl holds in the solar year has for a long time been a matter of doubt. Whether the beginning of the Tonalamatl was coincident with that of the solar year, whether the year 1 Tochtli began with the day 1 Tochtli and was intimately connected with the Tonalamatl which began with 1 Cipactli, or whether the Tonalamatl was really the kernel of the year and like the kernel of a nut occupied its center with fifty-two days preceding it and fifty-three days following it, no one as yet has been able to decide. But the publication of the Codex Borbonicus, recently issued by Ernest Leroux at the expense of the Duc de Loubat, gives Americanists an opportunity of studying in the original colors a unique specimen of the Tonalamatl, and offers strong evidence not only of the place of the Tonalamatl in the solar year, but of the real value of the "Acompañados de la Noche"—the Lords of the Night.

Dr Hamy, in his admirable commentary, tells us that this manuscript has been in the library of the Palais Bourbon for over seventy years, but that its origin is unknown. This is unfortunate, since, if its authority is beyond question, we shall be obliged to change in some respects our ideas about the Tonalamatl and the Lords of the Night.

The Tonalamatl of the Codex Borbonicus wants its first two pages containing the first two trecenas. The other pages, containing the Tonalamatl, are in a very admirable state of preservation, the colors being vivid and the designs in most cases clear and uninjured. Each page is large, being nearly a square of fifteen inches on a side. The left-hand upper compartment contains

a square of about ten inches on a side and is given up to the representation of a god or gods or of ceremonies with their various adjuncts and appendages. The lower part of the page is divided into small compartments, placed in two horizontal rows of seven each, while the right-hand side of the page is divided into similar compartments placed in two perpendicular rows of six each. The lower of the horizontal rows and the left-hand row of the perpendicular rows contain the thirteen days of the trecena, each with its appropriate numeral and the accompanying Lord of the Night, while the upper horizontal row and the right-hand perpendicular row contain birds and figures, which have not as yet been thoroughly explained, though some of the figures are the same as those of the Lords of the Night.

So far the Tonalamatl does not differ in any especial manner from other Tonalamatls, notably from that of the Aubin collection, but the fact that this Tonalamatl is followed by two pages on which is shown the full cycle of fifty-two years, or a calendar round, is the important point. On these two pages (numbers 21 and 22 in the Loubat reproduction), the center of each is occupied by a picture, and around these pictures are fifty-two compartments (twenty-six on each page) containing what have been called the initial days of the years in a cycle of fifty-two years. These days, if not initial, at least gave the names to the years. Thus at the left-hand lower corner of page 21 the first year is denoted by 1 Tochtli accompanied by a Lord of the Night; at the right is 2 Acatl with its accompanying Lord of the Night, and so on in a sinistral circuit about the central picture the years succeed each other until we reach the twenty-sixth year, 13 Acatl. The remaining years follow on page 22 in the same order, beginning with 1 Tecpatl in the left-hand lower corner and ending with 13 Calli, and in each compartment is the accompanying Lord of the Night. It is these Lords of the Night with which we have especially to deal. These Lords, as given by Gallatin and Léon y Gama, run in the following order:

Xiuhtecuhtli tletl, or tetl,	Lord of the year, fire,
Tecpatl,	flint,
Xochitl,	flower,
Centeotl,	Goddess of maize,
Miquiztli,	death,
Atl,	water, Goddess Chalchihuitlicue,
Tlazolteotl,	Goddess of love,
Tepeyollotli,	Deity, who lived in the mountains,
Quiahuitl,	rain, Tlaloc.

The first year on page 21 of the Codex Borbonicus is, as has been stated, 1 Tochtli, accompanied by Miquiztli, the fifth Lord. As there are 365 days in the year, a number divisible by 9 with a remainder of 5, we should expect to find that the Lord accompanying the next year, 2 Acatl, would be the first Lord, Xiuhtecuhtli ($5 + 5 = 10 - 9 = 1$); but so far from this being the case, it is the third Lord, Xochitl. This shows that the Lords of the Night do not run on from one year to another in regular order, but that there is some irregularity in the sequence. Of what does this irregularity consist? Let us see what Lords accompany each year. By referring to Table 1, we see that the years are accompanied by the Lords in the following order:

- 1 Tochtli by the fifth Lord, Miquiztli.
- 2 Acatl by the third Lord, Xochitl.
- 3 Tecpatl by the ninth Lord, Quiahuitl Tlaloc, etc.

The distances between these Lords (not counting in each case the one at the beginning, and counting the last one) run throughout the cycle thus: 7, 6; 7, 6, 6; 7, 6; 7, 6, 6, etc., excepting in one case where the distances run 7, 6; 7, 6; 7, 6, 6.

How can this apparent irregularity be accounted for? Very simply. On referring to the Tonalamatl, we see that on the beginning page, the third trecena begins with 1 Maçatl with the ninth Lord, Quiahuitl. The first trecena would then necessarily begin with 1 Cipactli with the first Lord, Xiuhtecuhtli. The last day of the twentieth trecena is 13 Xochitl with the eighth Lord, Tepeyollotli. This must necessarily be so, for as there are

$20 \times 13 = 260$ days in the Tonalamatl, and as $260 \div 9 = 28$ with a remainder of 8, the eighth Lord would accompany the last day. After this a new Tonalamatl begins with 1 Cipactli. Is this first day of the new Tonalamatl accompanied by the ninth Lord, Quiahuitl, or does the new Tonalamatl begin with the first Lord as did the old one, thus neglecting the ninth Lord and leaving him out of the count?

Léon y Gama¹ says: "Moreover, as the companions were only nine, and the days of this second calendar 260, they could not complete the period and one was left over, which was Quiahuitl, which in the new count, which was framed to regulate the solar count, came now as a companion to Cipactli, which in the beginning of the year had had Tetl for its companion, and thus though there were some of the same symbols and numerical characters of the days, which were repeated, the companions, which went with them in the last five months of the common year, were different."

Boturini² says that the nine Companions of the Night did not enter the five intercalary days of the year, and gives as a possible reason for this that otherwise the same Lord of the Night would not accompany the first day of the following year.

Gallatin³ says: "As the number 'nine' is not a factor of 260, the first day of the thirteenth [he means the fourteenth] month, which is the 261st day of the year, was distinguished from it by the sign of nine, and in the same manner every day of the five last months was distinguished by a sign of this series differing from the sign of the same series, annexed to the days of the five first months, which have the same name and numerical character."

The first and last of these writers can never have heard of the Codex Borbonicus, or, having seen it, they have denied its authority. Let us take up the numeration from the beginning:

¹ *Las Dos Piedras*, Mexico, 1832, p. 33.

² *Idea de una Nueva Historia*, etc., Madrid, 1746, p. 57.

³ *Transactions of the American Ethnological Society*, vol. 1, p. 62.

The first year, 1 Tochtli, is accompanied by the fifth Lord, Miquiztli. On referring to the Tonalamatl, which precedes, we find that 1 Tochtli with the fifth Lord, Miquiztli, is found on the day beginning the twentieth trecena, or, in other words, is the 248th day of the Tonalamatl, which comes to an end 12 days thereafter with 13 Calli. If the 248th day of the Tonalamatl is the first day of the year (considering 1 Tochtli for the present as the true initial day of the year), then the 260th day of the Tonalamatl is the 13th day of the year, and the 261st day, or the first day of the next Tonalamatl, is the fourteenth day of the year. The 260th day of this second Tonalamatl will then be the 273d day of the same year, and the 261st day, or the first day of the third Tonalamatl, will then be the 274th day of the same year. In other words, two Tonalamatls will have been finished during the year.

If now the Lords had run on through the Tonalamatl and through the year in continuous sequence, we should find that the first day of the second Tonalamatl, or the fourteenth day of the year, would have been accompanied by the ninth Lord, Quiahuitl, and the first day of the third Tonalamatl, or the 274th day of the year, by the eighth Lord, Tepeyollotli; while the 92d day of the third Tonalamatl, or the 365th day of the year, would have been accompanied by the ninth Lord, Quiahuitl, and the 93d day of the third Tonalamatl, or the 366th day of the year (= 1st day of the succeeding year), would be accompanied by the first Lord, Xiuhtecuhtli. As a matter of fact the Lord is the third in order, Xochitl.

This would seem to prove that Léon y Gama and Gallatin are both wrong, and that instead of counting the Lords in continuous order from one Tonalamatl to the other, the Indians began again with each new Tonalamatl and let the day 1 Cipactli be accompanied in each case by the first Lord, Xiuhtecuhtli. In other words, at the end of each Tonalamatl they neglected the Lord which was left over and began again with the first Lord. If this

were done, whenever one Tonalamatl came to an end within a solar year, we should gain one in the series of Lords, and when two Tonalamatls came to an end within a solar year, we should gain two in the series of Lords. This is the case in the Codex Borbonicus, as is shown in Table I, which gives the names of the years, the number of Tonalamatls which came to an end in each year, and the name of the Lord which would occur if the count of the Lords was made in a continuous sequence, together with the name and number of the Lord at the beginning of each year, as given on pages 21 and 22 of the Codex Borbonicus.

A proof of this can be shown by a slight calculation. If we take any year in the first column, add up the number of Tonalamatls in the second column down to and including the number opposite the year, then add this sum to the number of the Lord in the third column, and subtract as many times 9 as are contained in this final sum, the result will be the number of the Lord in the fourth column. Thus, take the year 1 Acatl-2 Tecpatl; add $2 + 1 + 2 + 1 + 1 + 2 + 1 + 2 + 1 + 1 + 2 + 1 + 2 + 1 = 20 + 3$ (the number of the Lord in the third column) $= 23$; deduct $8 (2 \times 9)$, and the result is 5 (the number of the Lord in the fourth column).

If we recognize this Codex as correct, the result must be that the Lords of the Night did not have the important place which they have been supposed to hold. If they had been used in a continuous sequence, instead of beginning the series anew with each new Tonalamatl, it would have been possible to differentiate the days of nine Tonalamatls and to tell in which of the nine Tonalamatls any day occurred, thus covering a space of $9 \times 260 = 2340$ days. Again, in like manner it would have been possible to differentiate the days of nine calendar rounds of fifty-two years, or $9 \times 18,980 = 170,820$ days; for, if a calendar round began with 1 Tochtli accompanied by the fifth Lord, Miquiztli, the next calendar round would then begin with 1 Tochtli accompanied by the fourth Lord, Centeotl, and the third calendar round would begin

with 1 Tochtli accompanied by the third Lord, Xochitl, and so on.

But if the surplus Lord is neglected at the end of each Tonalamatl, each Tonalamatl will begin with the same Lord, Xiuhtecuhtli, and each calendar round will begin with the fifth Lord, Miquiztli, and the only result of the presence of the Lords will be the differentiation of the days which belong to the parts of two different Tonalamatls which occur in one solar year; and even this will only be possible if, as Léon y Gama states,¹ the Indians did not think it necessary to give the name of the Lord accompanying the first twenty trecenas in a year, but only those accompanying the last eight trecenas.

But we have no right to impute to the Mexicans and Mayas a larger use of their calendar system than they can be proved to have possessed, and I know of no proof in the Mexican picture-writings that the Indians used the Tonalamatls and the Lords for differentiating the days in any longer period of time than a solar year. Is there a single case of a Xiuhmolpilli symbol being accompanied by the sign of a Lord, or indeed is there any case where the day symbol is so accompanied except in the Tonalamatls themselves? Is there anything to show that the Lords, besides their work of distinguishing the days of a solar year, which occupied the last eight trecenas, from those occupying the first twenty trecenas, did more than to play a part in the divinations to which the Tonalamatl was devoted?

The only escape, as it seems to me, from this deduction is that the Codex Borbonicus was written by an ignorant person, or by a fraudulent writer. The beauty of the drawings and the care which was evidently taken in preparing them are a refutation of the first suggestion; and the fact that it has been in the library of the Corps Legislatif for seventy years would seem to do away with the possibility of fraud, as in the early part of this century so little interest was taken in American archeology and ethnology

¹ *Las Dos Piedras*, p. 33.

that there was no inducement to spend time and money in fraudulent reproductions.

From this examination I am led to believe that the views expressed by others, namely, that the Tonalamatls were not continuous from one year to another, and were distinct periods occupying some particular part of the solar year, are erroneous. If this were so, and if but one Tonalamatl occurred in each year, we should expect to find the Lords of the Night either confined to the Tonalamatls and not accompanying the initial days of the year, or else following one another throughout the year continuously or with a regular interval. But we actually find these Lords repeated with irregular intervals, and these intervals are regulated by the number of Tonalamatls ending in each solar year. Apparently, therefore, the Tonalamatls succeeded each other, continuously lapping over from one year to the other, while the Lords of the Night accompanied the Tonalamatls and lost one of their number with the ending of each Tonalamatl.

Moreover, the first day of the Tonalamatl coincided, in turn, during the course of 73 Tonalamatls or 52 years, with every day of the solar year which ended with a 3 or an 8, and that day could never coincide with the first day of the solar year unless the year itself began with Cipactli, for I know of no Tonalamatl which begins with any other day than Cipactli. (See Table II.)

NOTE.—We find the Lords of the Night bearing as a body the same name as one of the months of the Mexican year, namely Quecholli. It would, therefore, seem that the Lords and the month had some connection. This connection is apparent when we consider that Léon y Gama states that the names of the Lords were not given to the days of the first twenty trecenas (which is the same as the first thirteen months or two hundred and sixty days), but began to be attached to the days of the next trecena or fourteenth month. If this is the case, it would be very natural that the month should take its name from the Lords, or the Lords from the month, and this fact would tend to prove that Quecholli was in reality the fourteenth month, as indeed has been believed by students of the subject with some notable exceptions.

TABLE I

<i>Year</i>	<i>Number of Tonalamalls ending in each solar Year.</i>	<i>Number and name of the Lord of first day of year in case the count were in contin- uous sequence.</i>	<i>Number and name of the Lord actually found on pages 21 and 22 of Codex Borbonicus.</i>
1 Tochtli			5 Miquiztli
1 Tochtli-2 Acatl	2	1 Xiuhtecuhtli tetl	3 Xochitl
2 Acatl-3 Tecpatl	1	6 Atl	9 Quiahuitl
3 Tecpatl-4 Calli	2	2 Tecpatl	7 Tlazolteotl
4 Calli-5 Tochtli	1	7 Tlazolteotl	4 Centeotl
5 Tochtli-6 Acatl	1	3 Xochitl	1 Xiuhtecuhtli tetl
6 Acatl-7 Tecpatl	2	8 Tepeyollotli	8 Tepeyollotli
7 Tecpatl-8 Calli	1	4 Centeotl	5 Miquiztli
8 Calli-9 Tochtli	2	9 Quiahuitl	3 Xochitl
9 Tochtli-10 Acatl	1	5 Miquiztli	9 Quiahuitl
10 Acatl-11 Tecpatl	1	1 Xiuhtecuhtli tetl	6 Atl
11 Tecpatl-12 Calli	2	6 Atl	4 Centeotl
12 Calli-13 Tochtli	1	2 Tecpatl	1 Xiuhtecuhtli tetl
13 Tochtli-1 Acatl	2	7 Tlazolteotl	8 Tepeyollotli
1 Acatl-2 Tecpatl	1	3 Xochitl	5 Miquiztli
2 Tecpatl-3 Calli	2	8 Tepeyollotli	3 Xochitl
3 Calli-4 Tochtli	1	4 Centeotl	9 Quiahuitl
4 Tochtli-5 Acatl	1	9 Quiahuitl	6 Atl
5 Acatl-6 Tecpatl	2	5 Miquiztli	4 Centeotl
6 Tecpatl-7 Calli	1	1 Xiuhtecuhtli tetl	1 Xiuhtecuhtli tetl
7 Calli-8 Tochtli	2	6 Atl	8 Tepeyollotli
8 Tochtli-9 Acatl	1	2 Tecpatl	5 Miquiztli
9 Acatl-10 Tecpatl	1	7 Tlazolteotl	2 Tecpatl
10 Tecpatl-11 Calli	2	3 Xochitl	9 Quiahuitl
11 Calli-12 Tochtli	1	8 Tepeyollotli	6 Atl
12 Tochtli-13 Acatl	2	4 Centeotl	4 Centeotl
13 Acatl-1 Tecpatl	1	9 Quiahuitl	1 Xiuhtecuhtli tetl
1 Tecpatl-2 Calli	1	5 Miquiztli	7 Tlazolteotl
2 Calli-3 Tochtli	2	1 Xiuhtecuhtli tetl	5 Miquiztli
3 Tochtli-4 Acatl	1	6 Atl	2 Tecpatl
4 Acatl-5 Tecpatl	2	2 Tecpatl	9 Quiahuitl
5 Tecpatl-6 Calli	1	7 Tlazolteotl	6 Atl
6 Calli-7 Tochtli	1	3 Xochitl	3 Xochitl
7 Tochtli-8 Acatl	2	8 Tepeyollotli	1 Xiuhtecuhtli tetl
8 Acatl-9 Tecpatl	1	4 Centeotl	7 Tlazolteotl
9 Tecpatl-10 Calli	2	9 Quiahuitl	5 Miquiztli
10 Calli-11 Tochtli	1	5 Miquiztli	2 Tecpatl
11 Tochtli-12 Acatl	1	1 Xiuhtecuhtli tetl	8 Tepeyollotli
12 Acatl-13 Tecpatl	2	6 Atl	6 Atl
13 Tecpatl-1 Calli	1	2 Tecpatl	3 Xochitl
1 Calli-2 Tochtli	2	7 Tlazolteotl	1 Xiuhtecuhtli tetl
2 Tochtli-3 Acatl	1	3 Xochitl	7 Tlazolteotl
3 Acatl-4 Tecpatl	1	8 Tepeyollotli	4 Centeotl
4 Tecpatl-5 Calli	2	4 Centeotl	2 Tecpatl
5 Calli-6 Tochtli	1	9 Quiahuitl	8 Tepeyollotli
6 Tochtli-7 Acatl	2	5 Miquiztli	6 Atl
7 Acatl-8 Tecpatl	1	1 Xiuhtecuhtli tetl	3 Xochitl
8 Tecpatl-9 Calli	1	6 Atl	9 Quiahuitl
9 Calli-10 Tochtli	2	2 Tecpatl	7 Tlazolteotl
10 Tochtli-11 Acatl	1	7 Tlazolteotl	4 Centeotl
11 Acatl-12 Tecpatl	2	3 Xochitl	2 Tecpatl
12 Tecpatl-13 Calli	1	8 Tepeyollotli	8 Tepeyollotli
13 Calli-1 Tochtli	1	4 Centeotl	5 Miquiztli.

TABLE II

<i>Year</i>	<i>Tonalamatl begins on the —</i>	<i>Year</i>	<i>Tonalamatl begins on the —</i>
1 Tochtli	13th day of year	1 Tecpatl	143d day of year
	273d " " "	2 Calli	38th " " "
2 Acatl	168th " " "		298th " " "
3 Tecpatl	63d " " "	3 Tochtli	193d " " "
	323d " " "	4 Acatl	88th " " "
4 Calli	218th " " "		348th " " "
5 Tochtli	113th " " "	5 Tecpatl	243d " " "
6 Acatl	8th " " "	6 Calli	138th " " "
	268th " " "	7 Tochtli	33d " " "
7 Tecpatl	163d " " "		293d " " "
8 Calli	58th " " "	8 Acatl	188th " " "
	318th " " "	9 Tecpatl	83d " " "
9 Tochtli	213th " " "		343d " " "
10 Acatl	108th " " "	10 Calli	238th " " "
11 Tecpatl	3d " " "	11 Tochtli	133d " " "
	263d " " "	12 Acatl	28th " " "
12 Calli	158th " " "		288th " " "
13 Tochtli	53d " " "	13 Tecpatl	183d " " "
	313th " " "	1 Calli	78th " " "
1 Acatl	208th " " "		338th " " "
2 Tecpatl	103d " " "	2 Tochtli	233d " " "
	363d " " "	3 Acatl	128th " " "
3 Calli	258th " " "	4 Tecpatl	23d " " "
4 Tochtli	153d " " "		283d " " "
5 Acatl	48th " " "	5 Calli	178th " " "
	308th " " "	6 Tochtli	73d " " "
6 Tecpatl	203d " " "		333d " " "
7 Calli	98th " " "	7 Acatl	228th " " "
	358th " " "	8 Tecpatl	123d " " "
8 Tochtli	253d " " "	9 Calli	18th " " "
9 Acatl	148th " " "		278th " " "
10 Tecpatl	43d " " "	10 Tochtli	173d " " "
	303d " " "	11 Acatl	68th " " "
11 Calli	198th " " "		328th " " "
12 Tochtli	93d " " "	12 Tecpatl	223d " " "
	353d " " "	13 Calli	118th " " "
13 Acatl	248th " " "	1 Tochtli	13th " " "